Unit 2 Functions: Overview

In this unit we continue to develop the concept of a function and give students the vocabulary and experience to analyze and understand qualitative graphs.

Students will understand –

* A function is a rule that assigns to each input exactly one output.
* The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Students will be able to:

* Determine an output for a given input.
* Write the ordered pairs for a relation represented by a mapping, a table, or a graph.
* Determine if a relation represented in context, or by a mapping, table, or graph, is a function. (Students do not have, as yet, the experience with non-linear equations to determine if an equation represents a function.)
* Classify a graph as a function or not a function; as linear or non-linear; as discrete or continuous; and as increasing, decreasing, neither, or both.
* Analyze qualitative graphs and match them to context.

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| Day | Learning Activity | Objective |
| 1 | “Summer Jobs” | A developing activity for the concept of functions as a set of inputs and outputs. |
| 2 | “Introduction to Functions” | Notes on definition and vocabulary of functions. |
| 3 | The Function Game: “Guess my Rule” | Solidify the concept of a function as a rule that assigns to each input exactly one output. |
| 4 | Carnegie 2-3 “Is It a Function” | Determine if a relation is a function from , a set of ordered pairs, a mapping, table, graph.  Introduce vertical line test. |
| 5 | Game: “Guess My Graph” | Describe graphs as functions or not; linear or non-linear; discrete or continuous; increasing, decreasing, neither, or both. |
| 6 | Carnegie 2-2 “Describing Characteristics of Graphs” | Analyze qualitative graphs in context. |
| 7 | “From Stories to Graphs/From Graphs to Stories”  NCTM, Navigating Through Algebra 6-8,  pp. 27-35 | Sketch a graph that represents a story;  Describe the story context of a graph. |
| 8 | Test Review |  |
| 9 | TEST: Functions |  |